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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/848,819	05/19/2004	Tetsuya Nakamura	2418.70US01	4788

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EXAMINER

COLE, ELIZABETH M

ART UNIT PAPER NUMBER

1771

DATE MAILED: 08/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/848,819

Applicant(s)

NAKAMURA ET AL.

Examiner

Elizabeth M. Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/27/06</u> | 6) <input type="checkbox"/> Other: ____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatsuka et al, U.S. Patent No. 5,537,718 in view of JP 2002-105824. Nagatsuka et al discloses a method for producing a layered fibrous material comprising the steps of forming a mixture of two different types of fibers, feeding the mixture to a roller, causing the roller to separate the fibers and throw the fibers from the roll, and collecting the thrown fibers on a collecting surface to form a layered material. See abstract. The fibers can be different due to their thicknesses. Both inorganic fibers such as carbon fibers as well as thermoplastic fibers such as polypropylene fibers can be used. The differences in the fibers makes the fibers have a different flight path which allows the fabric to be formed so that it comprises layers. See col. 4, lines 22-31. While Nagatsuka does not disclose that the outer layers should comprise the thinner fibers while the inner layer should comprise the thicker fibers, since Nagatsuka teaches employing different fibers which may differ in terms of their thickness as well as in terms of their chemical composition it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the particular types of fibers and the desired fiber diameters through the process of routine experimentation in order to arrive at a layered fabric having the desired fibers in the different layers. While Nagatsuka et al teaches a single collecting means instead of plural collecting means, it would have been obvious to one of ordinary skill in the art

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at the time the invention was made to have employed two different collecting surfaces motivated by the expectation that having two collecting surfaces would allow the layers to be separately formed and then united. Duplication of parts generally is not patentably significant in the absence of a new or unexpected result. With regard to the limitation that layers are inverted so that the finer fiber layers, (the more dense layers) are facing each, while Nagatsuka does teach forming a layered product, it does not teach the step of inverting the layers. JP '824 teaches that layered fiber products comprising different types of fibers can be formed as layers which comprise two different types of fibers and then the layers can be inverted so that the same types of fibers are facing each other. See paragraph 0018 as well as figure 8 which shows the layers being bonded so that the inner layers both comprise the same type of material. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have inverted the layers formed in Nagatsuka as taught by JP '824 to form the laminated article, motivated by the teaching in paragraph 0018 of JP '824 that forming the laminate so that the similar fibers were facing each other was an alternative known configuration for laminated materials comprising layers which comprise stratified regions comprising two different types of fibers.

3. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatsuka et al in view of JP 2002-105824 as applied to claims 1, 5-10 above, and further in view of Ruffo et al, U.S. Patent No. 4,018,646. Nagatsuka discloses a method of making a layered fabric as set forth above. Nagatsuka differs from the claimed invention because it does not specifically disclose employing sisal hemp fibers. Ruffo teaches that wood fibers can be used as one of the fiber components in forming a layered fabric from a mixture of fibers. See col. 10, lines 39-40.

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Sisal hemp fibers are a type of wood fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed wood fibers such as sisal hemp fibers as the fibers in Nagatsuka et al, motivated by the teaching of Ruffo that such fibers were known in the art to be useful for this purpose.

4. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.



Elizabeth M. Cole
Primary Examiner
Art Unit 1771

e.m.c